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## An Observation on Reduction in Milk Yield following Vaccination of Lactating Cows with Living Vaccines Prepared from Brucella Abortus


H. H. HOLMAN AND A. McDIARMID

AGRICULTURAL RESEARCH COUNCIL, FIELD STATION, COMPTON, BERKS


### INTRODUCTION

It is common experience to observe a decrease in milk yield following prophylactic vaccination in a dairy herd. During the course of experimental work at this Field Station, an opportunity was afforded of measuring the loss of milk resulting from vaccination with *Brucella abortus* live vaccine.

### EXPERIMENTAL

Observations were made on 29 tuberculin-tested, mastitis-free Ayrshire and Friesian dairy cows after their first calving. No cow was pregnant during the period of experiment. Six animals received 5 ml. of strain 19 *Brucella abortus* vaccine subcutaneously; eight were inoculated twice with strain 45/20 *Br. abortus* vaccine with an interval of three weeks, 4 ml. being administered subcutaneously on each occasion, and the remainder of the herd served as controls. The milk yield of each cow was recorded daily during a period of 14 weeks commencing six weeks prior to the first inoculation.

### RESULTS AND DISCUSSION

The results are summarised in the figure and in Tables I and II. The figure shows the weekly yield per cow for each group, and it can be seen that following each inoculation there was a decrease in yield.

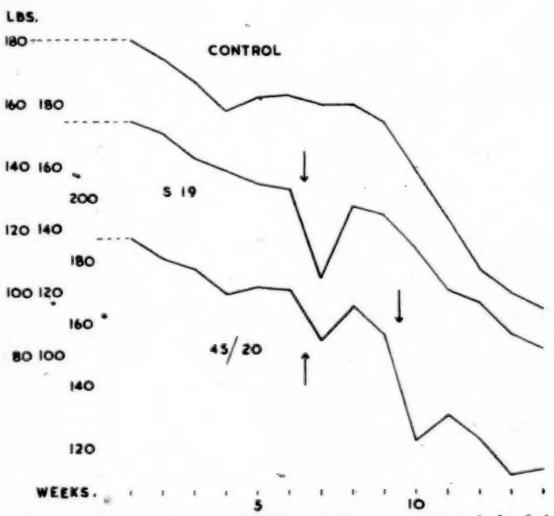



FIG.—Comparison of Weekly Yields per Cow over a period of 14 weeks.
Arrows indicate time of inoculation.

An attempt was made to calculate this loss. Inspection of the daily totals for each group showed that the apparent loss following inoculation was in all cases negligible in amount eleven days after inoculation, and therefore the period of eleven days after inoculation was accepted as the period of loss. The regression curve for lactation is considered to be an exponential curve, nevertheless, the error in taking the decrease over a small period as a straight line regression is trifling. To simplify the calculations, therefore, straight line regressions were used. These lines, based on yields for the five days previous to inoculation and for five days following the period of loss, were drawn by the method of least squares for each group. To estimate the loss incurred by inoculation the theoretical yields given by this line for the intervening eleven days, accepted as the period of loss, were subtracted from the actual yields for the same period, and the results are recorded in Table I.

TABLE I.—DAILY LOSSES PER COW IN LB.

| | Cows in Group | Days after Inoculation 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Control .. | 15 | 0·6 | 0·2 | +0·5 | +0·1 | +0·1 | 0·6 | 1·2 | 1·5 | 0·3 | 0·5 | 0·5 | 4·7 |
| S.19 .. | 6 | 0·7 | 7·0 | 6·7 | 4·8 | 3·2 | 3·2 | 2·7 | 2·2 | 0·8 | 1·7 | 0·5 | 33·5 |
| 45/20. 1st | 8 | 1·5 | 4·9 | 2·6 | 1·6 | 1·3 | 1·6 | 1·6 | 1·1 | +·1 | 0·1 | +·4 | 15·8 |
| 45/20. 2nd | 8 | 0·2 | 4·5 | 3·7 | 4·3 | 4·6 | 3·7 | 0·5 | 1·3 | 0·6 | 0·4 | 1·4 | 24·6 |
| Weighted means for loss per inoculated cow .. | | 0·8 | 5·3 | 4·1 | 3·4 | 3·0 | 2·8 | 1·5 | 1·4 | 0·4 | 0·6 | 0·5 | 24·0* |

+ = Gain instead of loss. * = total dependent on three decimal places.

Owing to the large variation in daily milk yields that occurs in the cow, it would be expected that the control group would show either a small loss or a small gain when compared to a theoretical standard, and in this case there was a small loss amounting to 4·7 lb., equivalent to a difference of 1·86 per cent. between the actual and theoretical yields, while a chi squared test showed that the relative frequencies of gains and losses were homogeneous with a hypothetical distribution of daily yields falling above and below the calculated regression line in equal numbers. On the other hand, in the inoculated groups there was a loss every day for the first eight days after the first inoculation with 45/20 and a loss every day throughout the eleven days for the second inoculation, and following the single inoculation with strain 19. Following the first inoculation with 45/20 the loss was less than with strain 19, but the sum of the losses due to the two inoculations with 45/20 was greater than the loss due to strain 19. Little reliance, however, can be placed on these comparative figures owing to the great variation among individual cows, which will be shown later, and it is preferable to group the results of all three inoculations together and examine the weighted means giving the daily loss per inoculated cow. The cows were inoculated on Monday morning, and it can be seen that there was a small loss for the 24 hours that included the afternoon milking on Monday and the morning milking on Tuesday; during the next three periods of 24 hours the loss was at its maximum with a mean of 4·2 lb., it then receded to become negligible nine days after inoculation. The average total loss per cow amounted to 24 lb.

To assess the total loss for each individual cow advantage was taken of the fact that a straight line regression is a form of arithmetical progression, so that the sum of the first and last terms equals the mean. Hence the loss can be calculated on the basis that the mean from the five daily yields previous to inoculation plus the five daily yields following the period of loss should equal the mean obtained from the yields during the intervening period.

The results for the variation in loss in the individual cow are given in Table II.

TABLE II.—FREQUENCY DISTRIBUTION OF TOTAL LOSSES FOR INDIVIDUAL COWS OVER 11 DAYS FOLLOWING INOCULATION

| | Losses in Lb. −78·5 | −66·5 | −54·5 | −42·5 | −30·5 | −18·5 | −6·5 | Gains +6·5 |
|---|---|---|---|---|---|---|---|---|
| Control .. | 0 | 0 | 0 | 0 | 0 | 2 | 9 | 4 |
| S.19 .. .. | 0 | 1 | 0 | 3 | 0 | 1 | 1 | 0 |
| 45/20. 1st .. | 0 | 0 | 0 | 0 | 1 | 5 | 2 | 0 |
| 45/20. 2nd .. | 1 | 0 | 0 | 0 | 2 | 2 | 3 | 0 |
| Totals of inoculated cows .. | 1 | 1 | 0 | 3 | 3 | 8 | 6 | 0 |

It can be seen that the losses vary widely among cows and do not permit a reliable comparison between the different injections. Eight out of 22 cows made a loss of from 13 to 24 lb. and fell into the class with a mid-point of 18·5 lb. but the curve shows a skew to the left with two cows showing a loss of 60 or 80 lb.

### Summary


1. The daily milk yields of six cows inoculated with strain 19 *Br. abortus* vaccine and of eight cows inoculated with two doses of



(*Concluded at foot of col. 1, page 336.*)

## Surgical Technique In General Veterinary Practice

### DISCUSSION BY THE CENTRAL VETERINARY SOCIETY*

(*Continued from page* 329.)

Dr. J. McCunn: He was very glad the Society had brought up the question of surgical technique because, when all was said and done, surgery was "a dying industry" and it was time they put on record some of the cryptic facts regarding it and the people who had practised it. (Laughter.)

When one dealt with technique there were three essential things: first, a knowledge of anatomy; second, that the surgeon should have hands that he could use, and third, that he should have common sense. Common sense was the most essential thing; for example, people tried to lay down rules of surgical technique which were as strict as the laws of the Medes and Persians. He would quote one: he had never known a veterinary surgeon yet who prided himself upon his technique who would do any suturing within the abdomen except by the Lembert method. That was absurd; the Lembert method was simply a method of increasing the area of contact. The peritoneum was very thin and cut edges did not offer much area for adhesion. Lembert said, "to achieve healing you must get as much surface of the one part in contact with as much surface of the other part as you can," so he turned the edges in. In regard to cystotomy, when there was stone in the bladder there was irritation, and nine times out of ten the bladder reacted to that; it contracted and its wall thickened. It might be half an inch thick and so have ample area to ensure healing. Yet one found stupid people trying to put in a Lembert suture—and, further, to preserve this Lembert suture they would put in another on top of it. So they ended up with a bladder wall tied in a lump and about an inch thick at the suture site—how could a good result be expected? Such a bladder needed only the ordinary simple uninterrupted suture; indeed, if your incision were made at the top of the bladder it probably would not need any sutures at all, for nature had many rules. One of these was: all fluids of the body exhibit a great tendency to flow in the normal channel. It was difficult to stop it doing so. You could do what appeared to be a terrible mutilation: take out the prostate of a man with the finger—tear it out—and in so doing dissolve the continuity between the bladder and the urethra, and yet in a short time the urine was running the way it should do. They had an example of that in the dog with a urethral stone—the incision, one with a ventral opening, could be kept open only with great difficulty.

Common sense and hands were the best aids in the mending of fractures. He remembered a friend of his bringing a Saluki up to the College: it had a simple fracture of both radius and ulna and there was considerable over-riding. His friend had been two days pulling and tugging, but it could not be moved. The simple thing was, under an anaesthetic, bend the leg, put the ends of the bones together and then put them straight. This was done and the dog made a perfect recovery. They must not tie themselves down to any set technique.

Professor Formston certainly had no shares in any catgut firm. (Laughter.) It was an extraordinary thing that though when he (Dr. McCunn) went to the Veterinary College in 1926 he was used to both catgut and silkworm gut as a matter of course, yet he found no one there who used silkworm gut or catgut. The excuse was that they could not tie it so that it would stay in a knot. Catgut got its reputation amongst human surgeons because of its use in abdominal operations, especially those for duodenal ulcer. In the old days silk was used and it was found that in virtue of its foreign body irritant effect it gave rise to further ulcers. Some years ago he had a controversy with Major Kirk in *The Veterinary Record* concerning the relative merits of catgut and silk. Major Kirk had the idea that silk dissolved. Silk never dissolved, and the reason why it was given up in human surgery was that the subjects of operation came back at a later date with peptic ulcer at the stoma, due to the use of silk. It was found that this did not occur if catgut was used.

It might be interesting to them to know that following the initial popularity of catgut trouble started. At that time he was training himself to be a pathologist and bacteriologist and he was fortunate in being assistant to Professor Bulloch. At that time Professor Bulloch was working on catgut, because something had got to be done to make it safe, and one of his (the speaker's) jobs used to be to select tubes of all batches of catgut that came in and put them in broth. He remembered once going to select tubes from a batch of catgut of a famous brand which was still popular to-day. He chose twelve tubes out of a case, put them in broth, and by next morning the corks were nearly blown out of nine of them. Previous to that experience with Bulloch he had always thought that catgut was made out of the peritoneal coat of the cat, but found, to his surprise, that it was made out of the sub-mucous coat of sheep. They might be interested to know that sausage skins were of the same tissue. If one obtained catgut from a reliable firm that followed Bulloch's method of preparation it was quite safe and would cause no sepsis.

It was quite right to say that some people were "born with hands," but some hands had to be trained and one of the best ways of training them was to take up some hobby, such as cabinet making; any hobby in which you had to use your hands with great skill.

In regard to the question of foreign bodies. Foreign bodies always try to get to the exterior. Stitches that went wrong in the bladder would most likely come away in the urine; the intestinal ones would have a great tendency to go into the gut.

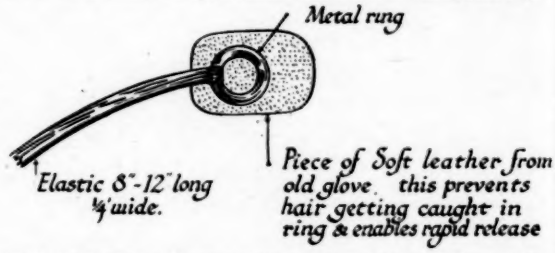
He was surprised that Professor Formston condemned the firing iron in castration: it was the best method of the lot. If Professor Formston thought that haemorrhage was a factor in the non-healing of wounds—and he thought Professor Formston was right—he would advise him to practise again with the firing iron. He had seen horses castrated by the firing iron without one drop of blood being spilled and they healed well. If they took 100 cases of castration by firing iron and 100 by any other method—most certainly by ligature—they would find that there was less swelling throughout the former.

Again he was surprised that Mr. Hodgman was so archaic as to use curved needles. Why veterinary surgeons hampered themselves by using curved needles and curved scissors on all occasions was beyond comprehension. There was not a single part of the body to which you could not gain access with a straight knife, straight scissors and straight needles. He was a "curved fan" (laughter) when he was first dressed to James Sherren and, much to his surprise, that great man—who did "any job you like to mention" better than any specialist surgeons—used the straight article. He said, "I won't stitch or cut where I can't see."

The trough operating table described by Mr. Hodgman was the invention of Henry Gray, a man who was a hundred years before his time, and he should have the credit.

Major Kirk had asked, "What is the best method for this, that and the other?" The answer was a very simple one: the best method was that by which you could do it best—and no one could deny that. It did not matter how you held your knife, scissors or needle; the method to rely on was the one that suited you best.

Mr. J. W. H. Holmes: Miss Joshua had mentioned the technique of giving nembutal intravenously in small animals single handed, and he would like to draw attention to another very simple method of doing the same thing. He carried round with him a small piece of soft leather on which he had sewn a length of about 8 inches of ½ inch wide ordinary tailor's elastic, and to one end of the elastic he had sewn a small brass ring. That was a convenient form of tourniquet one could wrap round the elbow. The free end could be held by means of the thumb in the region of the carpus. By the use of this tourniquet intravenous injection could be made without any help, other than by the owner holding the dog.


Metal ring
Elastic 8"-12" long ¼" wide.
Piece of Soft leather from old glove. this prevents hair getting caught in ring & enables rapid release

Mr. H. D. Sparrow: He was a whole-hearted supporter of Professor Formston, having never used catgut in his life. He used to stitch up the mid-line abdominal muscle incision in bitches with silk, until he got sinus trouble. Therefore he had dispensed with that and had since been suturing up through the muscle and skin in one suture as described by Professor Formston for the bovine. He kept this in for six or seven days and in every case except one there had been healing by first intention, except that sometimes there was a little seepage where the sutures were, which ceased on their removal. He had not had one breakdown, and the animal could be sent home with no foreign material inside it to cause trouble later on.

In bitches of two or three months which he had spayed he had not ligatured the body of the uterus at all—he had just torsioned it off, as he did in cats.

With regard to removal of the eye, he had always done the operation as described by Professor Formston and he had the opportunity, ten days ago, to do the same thing in a ewe which had a punctured eye-ball. It was rather surprising how well it healed up in a few days.

He had used a bandage wrapped round cotton-wool instead of gauze, but it was too stiff and did not conform to the incision: one got daylight underneath the pad, and gauze seemed the only suitable material.

Miss P. Iszard could not agree with those people who persisted in saying "silk every time." Since she went on to chromic catgut she had had no trouble with sepsis. It was put up in a little tube; there was no boiling; it did not break when one tied knots and the knots tied easily.

Nobody had mentioned pre-narcotisation that afternoon. She used morphia with 0·5 hyoscine in it—Hewlett's made it up for her. Her dose was 1 c.c. of the liquid per 20 lb. body weight, and if the dog was not very toxic, or old, or fat, one could put the dose up to 1·25 c.c. For example, they used 2·5 grs. in a bull bitch with pyometra. There was complete muscular relaxation and one got no defaecation and no salivation either, with this proportion of hyoscine in the morphia. The only thing was that the dog was excessively thirsty for the first few days. She had never had a death and it was infinitely easier to use than pentothal. The method was very simple and effective.

So far as Mr. Hodgman's very elaborate technique was concerned, she seemed to remember being told when she was at college that the skin had enormous bactericidal properties and that the application of antiseptics had a harmful effect on those properties. They just clipped the hair and scrubbed the skin with soap and water, and it was very satisfactory. She failed to see how the busy practitioner in these days had the time to boil instruments for an hour.

In regard to nylon, Armour's traveller persuaded her into buying some: she was fascinated with the varieties of colour in accordance with its degrees of strength. She had been trying it out on the skin and found it very satisfactory. It was easier to tie than silkworm gut, one could boil it, and it did not seem to pick up infection as silk sutures did. She had not tried it for internal suturing; it was very sharp when one cut it off.

So far as the use of the firing iron was concerned, from what she saw at college she would say that it would be a very aseptic method of taking off puppies' tails. Now she just used a local anaesthetic round the tail and, if that was small, a pair of nail scissors and a small hot poker.

She would like to associate herself with Miss Joshua in regard to the flank incision. The wound healed very well and one could send the animal home almost the same day, provided the owner was a sensible person. By that route one could do a pyometra, a Caesarean section, and spay. It was also much easier to restrain the animal. When one laid the animal on its side it was in a comparatively natural position and one did not meet no much tenseness as when it was laid on its back.

Mr. M. H. Clarke: He had found nylon very useful indeed; the only disadvantage was the difficulty of tying knots in this material. (Mr. Clarke demonstrated a special form of knot which he had found serviceable in working with nylon, saying that it was really a clove hitch with a half hitch superimposed.) It was useful for buried sutures and skin wounds. It had the advantage of not slipping and its free ends could be cut off flush with the knot itself. (See diagram.)

Professor H. Burrow: Not being a surgeon, much of Professor Formston's address was in a sense new to him, but there were one or two points he would like to make. Why, in the castration of large animals, particularly colts, should one depart from the clam and iron method? He was brought up to that method, but in the district in which subsequently he practised there were unqualified castrators and as he did not feel he wanted to be ousted by them, the method he adopted was to use the caustic clam—which he now saw was surgically wrong in theory, in that it caused crushing of tissue which was left on the spermatic cord: it was a principle of surgery, he believed, that, if possible, any part which had been damaged by handling should be removed.

In castration of horses, when using a ligature they must be cast and this raised the question whether castration "standing" should be continued and supported by the profession or whether they should set their faces against it once and for all

* At the meeting held at the Conway Hall, London, W.C.1, March 1st, 1945.

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45/20 *Br. abortus* vaccine given with an interval of three weeks are compared with those of 15 control cows.

2. A loss in milk yield followed inoculation; this loss averaged at 24 lb. per cow.

3. The loss was most pronounced during the period from two to four days after inoculation and was negligible nine days after inoculation.

4. There was great variation in the estimated total loss among individual cows, and estimates varied from a loss of 0·3 lb. to a loss of 80 lb. with a modal loss of 18·5 lb.

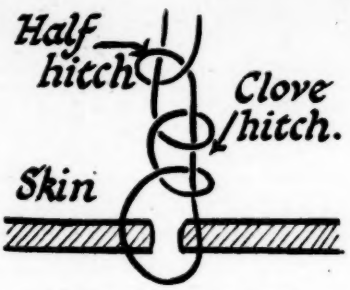


Diagram of Knot for Nylon

—because at present the choice of method seemed to depend on the district. He personally had no difficulty in castrating "standing," but if one was going to be logical in surgery, and ligate the vessels, why did not the modern surgeon also suture the scrotum?

Secondly, in connection with the use of the hot iron, it seemed rather illogical on the one hand to condemn the use of the iron for amputating a portion of the spermatic cord but to condone it for docking a foal. In the ordinary way you would not see the foal again, but if you saw him in, say, 14 days' time, had you used the iron you would find a considerable slough. One wondered, therefore, that surgeons had not found a more logical method of amputating the tail in the case of foals.

As regards the use of catgut, he had no wide experience of abdominal operations in small animals: it was very difficult for the country practitioner to carry out abdominal operations upon them. You could not do so with any confidence after, for example, having handled the infected cleansing of a cow. That was one argument in favour of partners in mixed practices, there being one partner who could devote himself to the large-animal side and the other to the small-animal side of the practice.

One could not help but admire the spirit of progress which had invaded the realms of surgery these days, but he would make one appeal to the teachers and exponents of veterinary surgery, and that was not to enshroud the subject with too much mystery and too many hard and fast rules. As a student he was "put off" from the very start by one or two experiences with one particular surgeon who overdid the process of stressing the need for asepsis, making it appear that it was almost too difficult for anybody to carry out. Surgery was not the perquisite of just a few of those who were equipped with the latest types of instruments and had an exceptional amount of dexterity bequeathed to them by nature.

Mr. L. R. Geffen: He agreed very much with all that had been said about not making too small an incision. He himself would not use a "stab" incision, believing that an adequate incision should be made: it avoided the possible necessity of enlarging later.

As regards the enucleation of the eye, his last two cases were in Pekes, the eye had popped right out, and he did not see how, in these cases, one could use the technique recommended by Professor Formston.

Concerning the preparing of the operation site, he thought that for cutting away the hair properly, at any rate, curved scissors were essential. After that he put on an acriflavine emulsion some time before operating. He did not know what the objection was to the curved needle; he could not remember having used a straight needle for anything yet.

He would like to thank Miss Iszard for having suggested to him the use of the morphia-hyoscine injection. He had used it on her recommendation many times and had found it a very safe and reliable anaesthetic. He found giving intravenous nembutal rather difficult and he would like to hear from his colleagues of some other route that was safe.

They had had rather a spate of large-animal talks at the Central meetings and he would like to say how much he had enjoyed that meeting, as many of the members, like himself, were particularly interested in small-animal practice.

Mrs. O. W. Evans: Being rather lazy, she began giving cats nembutal by the mouth, but she got very unsatisfactory results because in most cases one did not know how much fat the cat had in its stomach. Therefore she thought it was better to try to perfect the intravenous injection.

Major Kirk: He practically always gave nembutal intraperitoneally in the absence of assistance. There was no difficulty whatsoever and he consistently secured good results. Sometimes he had to give a little ether afterwards because he had not injected quite enough nembutal. He always used the latter in ready-prepared solution.

Miss O. Uvarov: It seemed that as so many practitioners were faced with inadequate supplies of catgut, the difficulties which had been mentioned concerning the use of catgut were in fact due to war-time production. She thought that Professor Formston was optimistic when he said that one did not meet with irritation from the stitches; she found that at times there were complications arising from interference by the animal with the operation wound—in any case kept in kennels one got it from sheer boredom. A valuable bull terrier bitch was taken home three days after operation and in half an hour she had ripped out all the eight stitches. When she got there some of the abdominal contents were on the floor. She used gut for stitching her up again and the bitch did very well.

She had met with one or two cases in which abdominal operations had been performed and silk sutures had been used internally, where there had been abscesses later on—particularly in one case where the bitch had an ovariohysterectomy and after 18 months she had abscesses in various parts of her body. The last she had was over the region of the patella and when this was opened up she found three silk sutures which presumably had travelled from the site of the ovariohysterectomy.

It was difficult to be aseptic in general practice if you had seen several cases during the day, and so far as clipping and washing were concerned, perhaps they were fortunate to have been taught at college that the more hair they took off the better. From that point of view, therefore, she was glad to hear that others did the same.

One did many kitten spayings nowadays in which one found enormously enlarged ovaries, and at times one was "out" in the incision by one-third of an inch: she had come across many kittens where the ovaries were so much higher up that the usual incision did not do at all, and she would like to know if maturity of the cat species was changing in any way.

Mr. T. N. Davis: He was rather surprised that sulphanilamide had not been mentioned that day in connection with wounds, because it had helped him a great deal: one could almost guarantee first-intention healing.

Professor Formston had suggested packing with a pad for the eye operation. Would that be suitable for filling in the cavities after the mammae had been removed?

Mr. Sparrow: The ewe from which he removed the eye could not be given nembutal as it was pregnant, so it was given 2 drams of chloral hydrate dissolved in water and mixed with linseed oil; it was administered by the mouth. He allowed 20 minutes for this to work and it proved most efficient, along with 2 per cent. planocaine infiltrated round the eyelids and injected deep into the orbit behind the eyeball.

With regard to the suturing of the mid-line in bitches, it must be remembered that quite long ends must be left; if they were cut off at the usual length—*i.e.*, if they were short—one would have difficulty in finding them, as they became buried in the skin.

Major R. F. Wall thought it might interest them to hear of his first case of castration in the horse—a very valuable animal—by ligature of the vessels. Everything was thoroughly sterilised and the operation went off well under an anaesthetic, but never in his life had he seen so much swelling. Ever after that he did it with the anaesthetic and the hot iron.

Personally he loathed catgut, and on one occasion when he was summoned, while out, to a street accident he ran into a near-by store and bought some "silkaline"—a sort of mercerised cotton. It proved excellent and now they used it in skin wounds.

He agreed with Major Kirk in regard to the intraperitoneal use of nembutal. He never had any bad results from it and it was very much easier when trying to inject the vein in restive animals.

Dr. J. T. Edwards: There were just two points upon which he would like to touch as a bacteriologist, because from the point of view of the working bacteriologist the pains taken by the operating surgeon often seemed to be excessive. They who had to deal with bacteria in the laboratory, knew just what precautions to take.

To the surgeon these precautions might seem at times to be very crude—and yet it was the laboratory worker who was in a position to check what was really necessary. The precautions which Mr. Hodgman had outlined were very thorough and splendid, but it was really surprising to him in the laboratory how little one need do to ensure sterilisation of instruments. Mr. Hodgman said "boil for two hours or so": they found in the laboratory that one minute was sufficient, for clean metal was sterilised by boiling in one minute, risk of contamination usually depending largely upon the precautions taken *after* removal from the boiling water.

Professor Formston had revived the idea of using ligatures for castration. That was a very old one and it seemed to him that it had failed to gain root in horse practice because, particularly, it was feared that somehow ligaturing of the cord was associated with the onset of botriomycosis ("scirrhous cord"). The botriomycotic lesion was caused by a staphylococcus, which culturing from the lesion found to be not different from an ordinary staphylococcus, for if one injected cultures into laboratory animals one produced an ordinary abscess; it was extremely difficult to set up a botriomycotic lesion by artificial inoculation. Work done many years at the Pasteur Institute seemed to show, however, that if one inserted into the testicles of guinea-pigs an inert substance like a piece of hair, impregnated with a very weak dilution of staphylococci, one could set up a true botriomycotic lesion. The presence of the foreign body was essential. So it had seemed, on such grounds, dangerous to embed ligatures in a cavity like a scrotal wound.

Dr. McCunn had touched upon an historic theme which he would like to elaborate a little further. Dr. McCunn had recommended that, in order to obtain skill in the use of one's hands in the matter of surgery, one should take up cabinet making as a hobby. The great John Hunter had experience of that in Scotland. He himself would say that some of the other crafts might be even more helpful. Before the days of anaesthetics speed counted for everything. Sir John Bland Sutton acquired his wonderful speed in removing uterine fibroids when this had become possible after the onset of the Listerian era, because it was said he had been at one time a butcher's boy, and thereby acquired a kind of skill that was denied to the ordinary surgeon.

Dr. J. McCunn: Sir John Bland Sutton was one of the most skilled surgeons with his hands there had ever been, and why it was said he looked like a butcher in the performance of his work was probably because of his dexterity with the knife and contempt for a little blood. Surgeons round him could recognise the master. He knew Sir John and Lady Sutton as friends; his wife was an aristocrat, but not by birth; she was a nurse. Our own Professor Macqueen started as a cabinet maker, putting it in broad terms—actually, he began as a coffin maker in Glasgow. Macqueen was an artist with his hands and his cabinet making stood him in good stead. Also he was one of the few he had known in the veterinary profession who could sharpen their own tools. His were razor sharp.

Dr. Montgomerie: While he agreed that in many circumstances aseptic technique could well be used, he was sure that in many of the conditions which arose in veterinary surgery one could not use such a technique to anything like its full development. Under these latter circumstances there was a tendency to use the highest possible level of aseptic technique, and to reinforce it with use of antiseptics.

When he saw antiseptics being used in surgical work he always doubted their real value. They were being employed to kill bacteria, and since many of them acted by coagulating the protein of the organism they must at the same time do considerable damage to the cells and tissues in the neighbourhood. He wondered, then, if the use of antiseptics in veterinary practice did not on occasion cause such local damage that the advantages attaching to their use were outweighed by their disadvantages. This was particularly the case if there was a tendency to use these antiseptics too strong. Mr. Hodgman had made the point that these antiseptics did not act in a flash, but required time to destroy the organisms. He would like to hear the views of the speakers on this suggestion that the use of antiseptics in surgery might on occasion do real damage to the local tissue. He illustrated his point by saying that, so far as he was concerned, if in operating he thought infection had had access to the abdominal cavity he would much prefer to leave the natural defences to overcome that infection, than to attempt to meet it by pouring in antiseptic. He was not, of course, including the sulphonamides as antiseptics in his use of that term.

*The Replies*

Mr. Hodgman: He had been somewhat criticised—as he expected to be—for his rather elaborate preparation before a major operation. He thought that perhaps some of the members had misunderstood him in that connection; he did not mean them to run away with the notion that it was he himself who clipped up, prepared the site, boiled instruments and cloths, etc. He was afraid his assistants had all this work to do and he insisted on it being done thoroughly. Of course, he fully appreciated the difficulties of the single-handed practitioner. But even should it be necessary to do this oneself the sacrifice of time and trouble was amply justified by results. However busy one might be there was a limit to the amount of work one could do efficiently in any one day.

While on the subject he would like to make this point in regard to his use of antiseptics. Any used were always in weak solutions and were given time to act. Many people seemed to attribute magic properties to antiseptics; you dabbed them on and all was well.

He had done 400 spays since 1940 without a death; until he insisted on more care in preparation of the patient and instruments, etc., his successes were considerably lower.

In dealing with the uterine stump after hysterectomy, he put the sutures through the actual stump and tied it off. He never worried about turning the edges in but he sometimes covered it.

All he would say on the catgut question was that he always used chromic catgut for internal work; maybe that which Miss Stainton got was contaminated before it was given to her. When using the screw-cap container one must naturally take

easonable precautions; for instance, it was no use leaving off the screw cap and expecting the suture material to remain sterile.

The idea of the trough operating table he got, he thought, from his partner, who might have secured it from Henry Gray, to whom Dr. McCunn had paid so well merited a tribute; certainly he had found it very useful.

Nembutal solution was admittedly more handy than the capsules but it was also very expensive, especially if used as extensively as they used it.

A question was asked about anaesthesia for Caesarean section. He did not know what others used, but he used morphine followed by oxygen and ether. He formerly had a tight-fitting rubber mask, with a hair spring outlet, the tube of which was run into water. The mask was held in position by a poll strap. Once the animal was unconscious an anaesthetist was unnecessary, the comforting sound of the respirations in the water was a sufficient check that all was well.

As regards the use of a hot iron in the amputation of puppies' tails, it was no doubt very efficacious, but there were times when the owner was present at the operation and he could understand some objection to that method. What was wrong with ferri perchlor?

The point raised by Dr. McCunn—why not use a straight needle?—was answered by Dr. McCunn himself. He preferred a half curved needle and that was why he used it.

Professor FORMSTON: Dr. McCunn was correct when he said he (Professor Formston) had no shares in any firm of catgut manufacturers; he also owned no cotton mills. Let it be understood by members present that he did not condemn the use of catgut—he had recourse to it frequently—he was merely submitting it to critical examination. Efficient repair and healing of wounds did not necessarily centre around catgut as a medium of co-aptation. He did not doubt for one moment that healing without untoward sequelae would follow the use of catgut, but he maintained that the facts he mentioned in his paper were indisputable. Catgut was not one hundred per cent. safe, particularly in large wounds. If it were, why had certain operators deserted the mid-line approach to the abdominal cavity in favour of the flank or para-median incisions? In certain cases such incisions might be more anatomically appropriate, but in the majority it was because they were afraid of disruption of the mid-line incision when repaired by means of catgut. Miss Joshua preferred a flank incision because of its supposed better blood supply. This was not a strong argument. It must not be forgotten that an incision should create the minimum of trauma and did not aim at the severance of blood vessels. The rectus muscle was well in evidence at the linea alba and was not avascular. The connective tissues were also avascular. The most actively proliferating cell in the body was the connective tissue cell. Fibroblastic activity was perhaps at its best in the region of the linea alba, and in any case the gap to be bridged in a well coapted wound was exceedingly small and had little need for granulation tissue. It should, and was expected to, heal by direct or primary union. Markowitz (Textbook of Experimental Surgery) says: "The incision for entering the abdomen of dogs is best made strictly in the mid-line through the linea alba. Bleeding is thus minimised and there is less tendency for the abdominal layers to separate from each other."

What was the objection to the use of cotton, silk or the plastics, materials definitely less irritant and with knots more stable than was the case with catgut? It was the bogy of buried suture abscesses and sinus formation. As he had said before, these could be avoided by rigid asepsis, using fine suture material and cutting close to the knot. Number 1 or 2 silk or number 2 nylon as a deep suture was adequate for the largest laparotomy wound in the largest dog. He had now used No. 2 nylon for buried sutures in nine abdominal operations with perfect results in each case.

Major Kirk had deserted silk for catgut because of suture abscess formation. He thought that if Major Kirk substituted nylon for silk in the skin wound and observed the condition already mentioned he would get no further trouble. Nylon was one of the plastics which could be put to many uses ranging from the towing of glider planes to the manufacture of ladies' stockings. As Miss Izard had said, it was supplied for surgical use in various colours, sizes and lengths and could be boiled without affecting its tensile strength.

Major Kirk had raised the time-honoured question of what to do with the uterine stump in metrectomy. Presumably he was more concerned with cases of pyometritis and parturient metritis. In cases of pyometritis he personally severed the uterus posterior to the cervix so that the stump became vaginal rather than uterine. In "closed cases," as the term implied, the cervix was closed. Contamination from uterine content was avoided by means of this severance posterior to the cervix. In "open cases" there was not the need for urgency of operation; consequently, he preferred to give a subcutaneous injection of post-pituitary extract twenty-four hours previous to operation. This promoted an initial increase of uterine discharge followed by cessation and closure of the cervix, converting it for the purpose of operation to the "closed" type.

He generally included both uterine arteries in a ligature around the stump. In cases of parturient metritis, following ligation, most of the tissue anterior to the ligature was cut away and the remainder swabbed with dettol.

Mr. Clarke had described the knotting of nylon. This was Haxton's knot and was the one he used and found satisfactory.

His colleague, Professor Burrow, had raised two most pertinent questions. Firstly, why should the scrotal incision in the horse be left open? In his (Professor Formston's) opinion if the operation was performed under ideal circumstances with due regard for surgical principle the skin wound could be sutured. Following the removal of intra-abdominal testicles—in some cases an operation in which contamination was unavoidable and tissue damage not inconsequential—the skin wound was closed and healed readily. He must admit that whilst he did suture the skin wound in dogs and boars, he had followed the practice of others with regard to horses and cattle and had left the wounds open. Was it because in these animals with the testicles slung between the legs the edges of the skin wound tended to come together without the aid of sutures? He was pleased Professor Burrow mentioned the use of the iron in docking horses for it gave him (the speaker) a chance of ventilating his feelings on the subject of docking generally. Was there any sense in this mutilation? The veterinary profession would be doing a service to the animal world if some concerted effort were made towards the discouragement of this lopping of tails, particularly in dogs and horses. The horns of cattle must not be removed because of their cosmetic value. On the other hand, in certain breeds of dog beauty was enhanced by having a piece of tail removed. Apparently the same applied in the case of the horse. In any case, if the operation had to be done why could not it be done during the first day or two of the foal's life as in the puppy? His direct reply to Professor Burrow was that the operation should be carried out on the baby foal and a more rational technique exercised with a flap incision and ligation of the vessels.

He was deeply interested in Dr. Edwards' account of the possible cause of the botriomyestic lesion of the spermatic cord, for it substantiated the argument he put forward in his paper. It was more than likely that ligation of the spermatic vessels was abandoned because the very nature of the material used—probably whipcord—caused the ligature to persist as a foreign body. It was more than likely that the ligature was not confined to the vessels but enveloped the whole cord. If catgut had been used it would not have persisted. He had adopted the ligation method on more than a hundred equines of various ages and had yet to meet any untoward sequelae.

# CLINICAL COMMUNICATIONS

## Respiratory Failure

HAMILTON KIRK, M.R.C.V.S.,
GOLDERS GREEN, N.W.11

A remarkable case in which the life of a two-year-old greyhound was eventually saved after a long and strenuous struggle, is probably worth recording. I was called to a country district to attend a fracture and found the animal had comminuted fractures of all four metacarpals of the near foreleg. There was great pain and general anaesthesia was essential. The trainer estimated the dog's weight at 56 lb., so 10 c.c. of nembutal was injected by the intraperitoneal route. This was the normal anaesthetic dose for a 50 lb. dog. Complete unconsciousness was induced in 12 minutes, during which time I was preparing plaster slabs, etc. The bones were approximated as nearly as possible, and a Cellona cast was applied. When nearly completed, respiration was noticed to have stopped.

Artificial respiration was at once commenced and a layman was instructed how to continue this whilst I searched my case for antidotes. Unfortunately, the picrotoxin bottle was empty, but I gave an ampoule of coramine intramuscularly. After a further 15 minutes of artificial respiration, not the slightest improvement was observed, so a further ampoule was injected intravenously. This also had no effect. Very soon afterwards 1/20th gr. digitalin was given intramuscularly, and the heart action was sustained. At the end of an hour, a messenger had arrived back from the village with some strychnine, 1/100th gr. of which was injected intramuscularly. Opening the mouth wide, pulling the tongue forward, artificial respiration, and restorative drugs were all of no avail, and I feared that at any time the heart would stop and my patient be dead. It was only the encouragement afforded by the continued heart action (although at times only a flutter) that kept me pumping at the chest for an hour and a half. The trainer then took over the artificial respiration whilst I drove off to find the nearest hospital. Fortunately there was one four miles away and a kindly matron lent me a cylinder of $CO_2$. The rubber tube of this was pushed to the back of the mouth, and a towel was laid over the latter to prevent the loss of gas.

Immediately, respiratory function was restored and maintained, to everybody's great relief. The plaster cast was completed, and by next morning the dog was running about as though nothing had happened.

This case serves to impress several important facts:—

(1) That some animals *do* have an idiosyncrasy to sub-anaesthetic doses of barbiturates.

(2) That coramine, strychnine, and ammonia inhalations do not always exert a sufficiently stimulatory effect upon the respiratory centres to restore normal breathing.

(3) That the one certain method of doing this is the inhalation of $CO_2$. I have never lost a dog when this has been used in similar circumstances.

(4) That artificial respiration for as long as an hour and a half does not necessarily set up a traumatic congestion of the lungs and pleura, which I feared might occur.

* * * * *

## Painful Intramuscular Injections

A doctor writing in a recent issue of the *British Medical Journal* doubted whether it was universally recognised how painful intramuscular injections of penicillin can be. He might truthfully have added the same remark as regards many another substance introduced by the same route. He went on to examine the contributory factors in detail, and put them thus: (1) the skill of the operator; (2) efficiency of instruments; (3) nature of skin antiseptic; (4) nature of substance injected; (5) position and attitude of patient; (6) patient's threshold to pain. The liability to pain varied with the training and skill of the nurses, and in particular, the variation is most marked in the rate of insertion of the needle and the rate of injection of the solution.

The inexperienced pierce the skin slowly (and painfully) and proceed to inject rapidly, giving rise to a particularly unpleasant stinging pain of wide radiation. Contrariwise, the injection which is virtually painless results from a bold insertion of the needle and a slow (2 c.c. per minute) rate of injection. This speed of the procedure is the most important single factor in the production of pain. It is not at all uncommon to hear veterinary surgeons talk glibly of injecting 5 c.c. into the gluteals of a dog or cat. The writer believes, however, that such a quantity causes great separation of muscle fibres, with pain, and that generally no dose over 2 c.c. should be so introduced.

Possibly the sharpness and cutting edges of war-time needles have deteriorated; and the use of spirit for skin cleansing might well be a source of pain. The latter can be avoided by the use of ether or

ether meth. and allowing a few seconds for evaporation before inserting the needle. It is recalled that many parenteral therapeutic agents—*e.g.*, liver extract, arsenicals, etc.—have been painful when first introduced, due to unsuitable *p*H and/or contained impurities. The use of local analgesic is an uncertain method of minimising pain in these cases and converts a simple procedure into one which is complicated and time-consuming. The writer has certainly noticed that on numerous occasions dogs have evinced pain from the simple subcutaneous injection of procaine.

Letters to the *British Medical Journal* have debated the respective advantages of the buttock and the lateral thigh area as the site for injection, and the consensus of opinion seems to favour the latter. So far as small animals are concerned, veterinarians have little choice of position. The gluteals, having the greatest mass of muscle tissue, seem to be the best receptive area. Even here, considerable care must be exercised as it is possible to penetrate too deeply and cause damage to the sciatic nerve. The writer was guilty (on only one occasion in his life) of doing this to a cat with the result that for three weeks the animal walked on its metatarsus exactly as an animal would do which had sustained rupture of the tendo-Achilles.

Again, one may not penetrate sufficiently into a muscle, and thus leave the injection almost under the skin ; and many solutions cause great pain when introduced subcutaneously. On the average, a penetration of about ¾ to 1 inch is correct. Finally, the needle used should be highly polished, sterile, sharp, and of the finest calibre consistent with the nature of the solution to be injected, *i.e.*, oily or aqueous.

H. K.

## ABSTRACTS

**[Diagnosis of Poisoning of Beef Calves by Lead Paint.** Shrewsbury, C. L., King, F. G., Barrick, F., Hoefer, J. A., and Doyle, L. P. (1945.) *J. anim. Sci.* **4**. 20-23.]

The authors provide evidence which strongly supports the view that flaking paint is dangerous to calves. Since 1933 difficulties in rearing calves have been encountered at the Purdue University Agricultural Experiment Station, Indiana. Calves four to eight weeks old showed a fairly constant series of clinical symptoms—failure to suckle, muscular tremors, partial or complete blindness, staggering, convulsions and death. At autopsy the animals were found to be in good condition and the only constant lesion was nephrosis. Bacteriological examination and analysis of blood and urine showed nothing abnormal except for the occasional presence of albuminuria.

Poisoning eventually was suspected and the suspicion was confirmed by the observation that the calves frequently licked the corral fence which had been painted some three years before losses among the calves reached its maximum. Scrapings of the paint showed lead to be present and analyses of the livers of calves which died revealed considerable amounts of this metal. The Pb content of the livers of five " control " calves (from the abattoir) varied from 0·0 to 3·75 (mean : 0·93) mg. per kg., and the corresponding values for five " control " cows were 0·0 to 0·06 (mean : 0·01) mg. per kg. Calves which died after showing the symptoms described above showed a considerably greater amount of Pb in the livers—3·7 to 106·8 (mean : 46·8) mg. per kg. (eight animals). Yearling animals from the University herd which were slaughtered, and most of which showed no symptoms suggesting poisoning, showed an amount of Pb in the liver similar to that present in the " control " calves—0·0 to 3·7 (mean : 0·8) mg. per kg. (twelve calves).

When measures were taken to prevent access to the painted fence no further trouble among the calves occurred.

Five calves, 19 to 68 days old, were bucket fed on milk and were given lead acetate (one animal) or lead carbonate (four animals) for 6 to 30 days, in doses varying from 0·5 to 6·0 g. daily. Convulsions occurred in four of them and all five animals died between 6 and 30 days after receiving the first dose, the total amount of Pb given ranging from 9 to 47 g. In all the calves there was nephrosis and most of them showed oedema of the brain and spinal cord. The livers contained 50 to 514 (mean : 292) mg. Pb per kg. dry weight.

E. G. W.

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**[Studies on Enzootic Bovine Haematuria. Effect of Bovine Blood on Urinary Bladder.** Plummer, P. J. G. (1945.) *Canad. J. comp. Med.* **9**. 49-50.]

In a previous study the author described the histopathology of this disease as it occurs in British Columbia (see abstract *Vet. Rec.* (1944.) p. 438). It was then shown that haemorrhage was the initial change and the present study was designed to see whether free blood within the bladder might cause the development of haemangiomata similar to those occurring in bovine haematuria. Injection of calf blood (whole, defibrinated, or citrated) into the bladder of guinea-pigs failed to cause haemangiomata. Three calves received injections of 2 ml. of autogenous blood, taken from the jugular vein, into the bladder and two of the animals were killed on the 14th and 144th days respectively. No changes were found in the bladder, either macroscopically or in serial sections. The third calf showed no clinical symptoms and was normal 15 months later. These experiments suggest that the mere presence of free blood in the bladder is not an exciting cause of haemangiomata.

E. G. W.

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**[Reaginic Allergy in Cattle.** Reddin, L., jun. (1945.) *Amer. J. vet. Res.* **6**. 60-64.]

Little has been reported on allergic manifestations in the lower animals except for studies on serum disease and the infectious allergies such as the tuberculin and mallein reactions. There are, however, scattered reports on conditions such as allergic eczema in dogs ; cow's milk sensitivity in a baby walrus and hay fever in cattle and a dog. In a previous report (Weil, A. J., and Reddin, L. (1943.) *J. Immunol.* 47. 345) evidence was produced to show that the immunological status of ragweed supersensitivity in cattle was essentially similar to that in human beings.

In the present study a herd of 42 cattle (maintained for serum production) was tested by the intradermal inoculation of a glycerinated extract of giant ragweed. Forty per cent. were found to be sensitive as judged by the size of the wheal at the point of inoculation. It was found possible to transfer local skin sensitivity to negative cattle by the intradermal inoculation of diluted serum from sensitive cattle. Such passive sensitivity was demonstrated 24 hours later by testing the serumised area with ragweed antigen. It was also noted that the passive sensitising properties of the antibody could be inhibited specifically by the ragweed antigen and that the antibody could not inactivate the ragweed antigen.

The passive transfer of human ragweed antibody to cattle was successful but the reverse experiment was inconclusive.

The inoculation of ragweed pollen into a non-sensitive cow failed to produce a state of supersensitivity although neutralising antibodies could be demonstrated in its serum.

J. S. P.

## MANGEL (MANGOLD) POISONING OF LIVESTOCK

" The poisoning of livestock by mangels (*Beta vulgaris macrorhiza*) is an occasional accident of feeding," states *Veterinary Science Newsletter* in its abstract of the *Proceedings* of the New Zealand Veterinary Association, 1944, and continues: " The cause is spontaneous conversion of harmless nitrates to toxic nitrites under certain distinguishable conditions of storage or preparation of these beets for feed. The sudden death of 200 out of a herd of 600 pigs in New Zealand, systematically investigated by chemists of the New Zealand Department of Agriculture, revealed that cooking the beets in a large vat, leaving the swill standing overnight, and mixing it with meat meal and grain was responsible for the poisoning. The pigs died from one-half hour to two hours after eating the mixture and the analysis showed that the contents of the vat contained eight to nine grains of nitrite (calculated as nitrogen) per gallon (0·13 to 0·15 gm./litre). Thus a gallon (3·8 litres) of the swill contained a toxic dose of nitrite for pigs while the mangels from which the swill was prepared contained only 4·9 grains of harmless nitrates per pound (7·1 gm./kg.), a quantity sufficient, however, to produce the amount of nitrite per gallon found in the swill on chemical analysis. This integration of nitrites in beets is comparable to the formation of toxic amounts of hydrocyanic acid in linseed meal when warmed and left to stand overnight before feeding ; and to oat-hay poisoning seen in the United States where the potassium nitrate normally contained is converted into nitrite and becomes toxic for cattle, sheep and horses. The plant *Salvia reflexa*, and the variegated thistle of Australia are also incriminated of undergoing conversion (nitrate to nitrite), which is obviously due to enzymic or bacterial decomposition before being eaten. In the case of plants, sorghum, oat-hay, and the plants named above, the toxic autolysis may take place, at least in part, in the digestive tract, but in the New Zealand catastrophe, the conversion was entirely in vitro."

### Weekly Wisdom

*" The same arts that did gain*
*A power, must it maintain."*—Anon.

## Questions and Answers

"Questions and Answers" will be published on alternate weeks.

The submission of questions for inclusion in this column will be welcomed: they can relate to any aspect of veterinary work. For purposes of record, each question is numbered, and those submitting questions are required to furnish (not for publication) name and address.

Answers to readers' queries represent exclusively the personal opinions of the writers, and criticism of the replies will be appreciated.

All communications should be addressed to the Editor.

### Drying Off of Quarter Affected with Suppurative Mastitis

**Q. XCII.**—*What is the most effective method of drying off a quarter affected with suppurative mastitis, and the function of which will obviously not return at a future lactation?*

**A.**—There is no effective method of "drying off" such a quarter. If the secretion of pus is excessive it should be drawn off daily into a receptacle, not milked on to the floor. Alternatively, the teat may be amputated at the base, after which the cow should be isolated to prevent infection of cowsheds and pastures. Small quantities of pus often become inspissated with resulting atrophy of the quarter.

### "Mastitis" Milk and the Resazurin Test

**Q. XCIII.**—*Will milk from a quarter affected with sub-acute or chronic streptococcal mastitis which is put into a full churn affect the resazurin test on that churn?*

**A.**—The resazurin test is designed primarily to detect the presence of non-pathogenic organisms which cause souring of milk. Other bacteria and the presence of cells do, however, slightly shorten the reduction time. Freshly drawn quarter samples of "mastitis" milk may therefore effect the test, chiefly due to their high cell content, but when the milk has stood 24 hours the presence of cells has little effect on the result. In practice the test is usually carried out on bulk milk that has stood for 24 hours and mastitis is therefore not an important factor in causing failures.

### Acetonaemia (Hypoglycaemic Ketosis)

**Q. XCIV.**—*Link (Vet. Rec., Vol. 53, p. 146) states that glucose given to cows (dose not quoted) by stomach tube produced the maximum increase of blood sugar in four hours, and this lasted more than 24 hours.*

*Is this true? If so, can acetonaemia be efficiently treated with glucose per os and is it really necessary to give the usually recommended intravenous injections? What dose per os would you suggest, and can such quantities be obtained in war time?*

*What is the factor responsible for the onset of nervous symptoms, and why in the "licking" form of this disease do the symptoms invariably pass off without glucose, bi-carbonate or calcium medication?*

**A.**—Our knowledge of bovine ketosis is, unfortunately, still very limited, and so also is that of the fundamental bovine physiology. In these circumstances it is difficult to answer this question with certainty. Sugar in all common forms seems to have a specific action on bovine acetonaemia.

The reference in the question to administration of glucose by stomach tube was based on a study of the glucose tolerance of a cow carried out by other workers in 1933. Whether glucose given by the mouth alone would be effective in acetonaemia is questionable and it would seem preferable to bring about an immediate increase in blood sugar and a rapid restoration of liver glycogen by glucose given intravenously (the writer usually injects about 4 oz. glucose intravenously at two- to three-day intervals) and then to provide further supplies by repeated doses of glucose or treacle. The writer has never actually used glucose per os for this condition.

Glucose can be obtained by veterinary surgeons on a permit from the Sugar Control (Glucose Supplies), Ministry of Agriculture and Fisheries. Treacle may be obtained by farmers as part of carbohydrate ration, or for making ensilage, and the writer is supplied with coupons by the county W.A.E.C. to purchase treacle for dispensing.

Another possible line of treatment in acetonaemia is administration of large doses of vitamin A. Mackay (*Vet. Rec.*, 1943, 55, 455) states that cod liver oil is of considerable value and proved effective when the response to glucose or bicarbonate given intravenously was only moderate. More recently (Patton, J. W., *Vet. Med.*, 1944, 39, 150-153), it has been stated that large doses of vitamin A (100,000-250,000 I.U.) are effective in relieving the symptoms of acetonaemia in dairy cows in the Cotton Belt of the U.S.A. Patton suggests that the symptoms are those of uncomplicated vitamin A deficiency. The condition occurred mainly in cows on dry feed which consisted chiefly of cottonseed meal: few cases are seen in animals at pasture.

## Correspondence

### *Q. LXXXV: Hydrops amnii in the Bitch*

Sir,—In his reply to the above question your correspondent invites observations from readers. May I make a few such on the question of diagnosis and treatment.

*Diagnosis.*—This hinges first on the question of the abdominal enlargement. Is it intra- or extra-uterine? A careful rectal examination in conjunction with a test for ascitic "thrill" should establish this point. The history of the last oestrus should be extensively investigated.

If the enlargement is intra-uterine it is necessary to decide if it is due to pregnancy or pyometra. If due to pregnancy, is it normal or abnormal? Here again a rectal examination is of great value, if not essential.

*Treatment.*—If it is decided that the enlargement is due to an abnormal pregnancy and the bitch is obviously ill and distressed, the only rational treatment is to terminate the pregnancy.

Stilboestrol might be tried, but if it fails it is only a waste of valuable time. Caesarean hysterotomy—or if the owner is not anxious to risk a further pregnancy, complete hysterectomy—is the operation of choice.

I encountered a case of this condition in 1941 in an 18-month smooth terrier bitch.

She was first seen on November 3rd. The history was one of vomiting and inappetence. The abdomen was grossly enlarged and there was a slight greenish black discharge from the vulva, and occasional slight straining. She had "got out" six to seven weeks previously when in season. No foetus could be felt per vaginam. Temperature was normal.

A diagnosis of commencing premature parturition with possibly dead foetuses was made. Thirty-six hours later there was no change in the condition and hysterectomy was performed. Recovery was uneventful. There was a grossly abnormal amount of fluid in the uterus, the foetuses were dead and showed a gelatinous oedema and one—in the body of the uterus—was decomposing. The uterus itself was very thin-walled.

I hope these observations may be of interest to your correspondent.

Yours faithfully,

22, Worting Road, Basingstoke. W. Robt. Turnbull.
*June 20th*, 1945.

* * * * *

Sir,—The above condition has been encountered once by Dr. Kon and myself, and was reported in *The Veterinary Record*, April 11th, 1942 (**54,** 148). Ovaro-hysterectomy was performed, but the outcome was no more fortunate than in the two cases quoted by Miss Joshua.

Yours faithfully,

14-16, Queen's Road, Reading. F. R. Spratling.
*July 1st*, 1945.

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### *Ruminant Digestion*

Sir,—With reference to the answer in *The Veterinary Record* of June 16th, 1945, being the questioner I may say I was not thinking about wheat flour. As far as I know, wheat flour is not used for feeding cows. Wheat flour when mixed with hot water makes a useful paste for paper hanging and if wheat flour is fed to cows the digestive tract would soon be clogged.

The following has some bearing on the feeding of oat flour. A dairy farmer purchased a new mill for bruising oats; after it was installed and set in motion the oats were ground into flour and the owner was pleased with his purchase. Not long afterwards the farmer called on the agent who supplied the mill and complained that the milk yield of the cows was falling and the cows were suffering from indigestion. The agent, who knew the cause, took two plates of his own make, went to the farm and fitted them into the machine and the oats were crushed instead of being ground into flour. The plates supplied by the maker ground the oats into flour. At his next visit the farmer told the agent his cows were now milking better and in better condition than they ever were. The oats were ground finer with the new machine, but not into flour, with the second set of plates fitted. With the oat flour the cow's stomach was getting clogged.

If human subjects are fed with too much corn flour they will suffer from constipation and loss of appetite.

I have observed that cows (*a*) will digest whole oats when fed in the sheaf; (*b*) will not digest whole oats when fed by themselves; (*c*) will digest crushed oats; (*d*) will not digest oats when fed in the form of flour; (*e*) will not digest whole beans and Indian corn, but calves will.

Judging by the remarks of W. G. Robinson on the Clydesdale horse in *The Veterinary Record* of April 14th 1945, I very much doubt if the modern scientific veterinary surgeon knows as much about the feeding, management and cause of disease in heavy draught horses as his grandfather did. The successful feeding and management of animals is not such a simple procedure as many people imagine.

Yours faithfully,

Ardnadam, Dunoon. A Hart.
*June 21st*, 1945.

## Summary of matters dealt with at the recent N.V.M.A. Council and Committee Meetings, held in Edinburgh

By the kind permission of the Principal and Governors, the Council and Committee meetings of the N.V.M.A. were held at the Royal (Dick) Veterinary College, Edinburgh, on June 27th and 28th. This was the first time the Association has met in Scotland since the outbreak of war, and follows the understanding that at least one Quarterly meeting of Council should be held in Scotland each year. In spite of the great travel difficulties there was a fairly representative attendance at the Council Meeting but the attendance at the various Committee meetings was somewhat disappointing. The questions dealt with were of a varied nature but included several matters of importance, and the following is a brief summary.

Arrangements were made for further action to be taken to expedite the adoption by the Government of the recommendations for improving the salaries of veterinary officers of the Ministry of Agriculture put forward in support of the case presented by the Association of Veterinary Inspectors.

Good progress was reported in the preparation of a Memorandum on the Colonial Veterinary Service for submission to the Secretary of State for the Colonies. In this connection a resolution was passed by the Council requesting the Overseas Committee to stress in this Memorandum the desirability of action being taken forthwith to provide a unified Colonial Veterinary Service on the lines recommended in the Lovat Report of 1929.

The Report of a Committee appointed some time ago to consider the Animals (Anaesthetics) Act, 1919, and to advise the Council in making recommendations for bringing this legislation more into accord with modern surgical practice was presented. It was decided, however, to request this Committee to reconsider further certain of its recommendations.

The Council approved a unanimous recommendation from the Selection Committee that the "Dalrymple-Champneys" Cup and Medal for 1945 be awarded to Dr. A. D. McEwen, M.R.C.V.S., F.R.S.E. The presentation of this award will be made at the Annual General Meeting.

It was decided to hold the Annual General Meeting on Thursday, September 27th, in London. There will be Council and Committee meetings on Tuesday, September 25th, and papers on (i) Achievements of the Army Veterinary and Remount Services during the War and (ii) War-time Achievements of the Colonial Veterinary Service have been arranged for presentation on Wednesday morning, September 26th, and Thursday morning, September 27th, respectively. The Council for 1945-46 will come into office immediately following the Annual General Meeting and will hold its first meeting on Friday morning, September 28th.

The President's Reception will take place on Wednesday, September 26th, at the Dorchester Hotel, Park Lane, W.

Members who intend to be present at the Annual General and other meetings are urged to apply for hotel accommodation without delay.

The Council unanimously decided to make the following recommendations to the Annual General Meeting in connection with the election of officers for 1945-46:—

*President*: Mr. G. N. Gould.

*Vice-Presidents*: Professor Wm. C. Miller; and Professor W. M. Mitchell, also as President-Elect.

*Hon. Treasurer*: Mr. H. E. Bywater.

*Hon. Secretary*: Mr. T. L. Wright.

With regard to the recent appointment by the Minister of Agriculture of a Hill Sheep Advisory Committee, the Council learned with satisfaction that Professor Wm. C. Miller had been invited to serve as a member of this Advisory Committee.

Subject to some slight amendment, the Council accepted a Memorandum on "The importance of adequate water supplies and sewerage facilities in relation to agriculture" which also contained recommendations. The Memorandum will now be brought to the notice of other interested bodies and appropriate Government Departments.

This summary would not be complete without an acknowledgment of the Association's indebtedness to the Principal of the Royal (Dick) Veterinary College for the accommodation provided for the meetings and for the privilege accorded to those present of lunching in the College Refectory.

# NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

### Diary of Events

July 14th.—Meeting of the North of Scotland Division, N.V.M.A., at Aberdeen (Marischal College), 2 p.m.

July 17th.—Meeting of the British Society of Animal Production at the University of Reading, 10.30 a.m.

July 19th.—**Meeting of Council, R.C.V.S.**, at 10, Red Lion Square, W.C.1, 11 a.m.

July 20th.—Meeting of the Biochemical Society, at Leeds (School of Medicine, Thoresby Place), 2.30 p.m.

July 20th.—Meeting of the Mid-West Division, N.V.M.A., at Bristol (Bright's Restaurant, Queen's Road, Clifton), 2.30 p.m.

July 24th.—Summer Meeting of the Eastern Counties Division, N.V.M.A., at Cambridge (Institute of Animal Pathology), 11 a.m.

July 25th.—Meeting of the Lancashire Division, N.V.M.A., at the Cheshire School of Agriculture, Reaseheath, Nantwich.

July 25th.—Summer Meeting of the Yorkshire Division, N.V.M.A., at Doncaster (Glasgow Paddocks), 2.30 p.m.

July 26th.—Meeting of the South-Eastern Division, N.V.M.A., at Folkestone (Subscription Rooms, Leas Cliff Hall).

July 26th.—Meeting of the Southern Counties Division, N.V.M.A., at Winchester (Royal Hotel), 2.30 p.m.

July 27th.—Meeting of the Royal Counties Division, N.V.M.A., at Jealott's Hill (I.C.I. Agricultural Research Station), 2.15 p.m.

Sept. 25th.—**N.V.M.A. Council and Committee Meetings.**

Sept. 26th.—**In connection with N.V.M.A. Annual Meeting—Paper: "Achievements of the Army Veterinary and Remount Services during the War" (Morning). President's Reception, Dorchester Hotel, Park Lane, W.1, 8.30 p.m.**

Sept. 27th.—**Paper: "War-time Achievements of the Colonial Veterinary Service" (Morning). Annual General Meeting, N.V.M.A., The Grand Hall, Royal Veterinary College, N.W.1, 2 p.m.**

Sept. 28th.—**N.V.M.A. Council Meeting, 10 a.m.**

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### PERSONAL

*Birth.*—Taylor.—On July 3rd, 1945, at Brookfield House, Kings Sutton, Banbury, to Joan (*née* Burbage), wife of W. M. Wadman Taylor, M.R.C.V.S., a son (Peter Wadman).

*Marriage.*—Rawlinson—Brooks.—At Pennington Parish Church, on June 16th, 1945, William Edgar Rawlinson, of St. Mary's Place, Ulverston, to Nora Brooks, of Soutergate, Ulverston.

* * * * *

### The Late Mr. F. J. Carless, J.P., M.R.C.V.S.

An Appreciation

By the death at the age of 75 years of Mr. F. J. Carless* the veterinary profession in South Africa has lost one of its most prominent and respected members. Coming to South Africa for health reasons nearly 40 years ago, he commenced practice in Natal. He was, however, a keen agriculturalist and started farming in 1911 at Mooi River, soon becoming one of the best known farmers in the country. He was a prominent breeder and official judge of Shorthorn cattle. From 1926 to 1928 he was President of the Natal Agricultural Union and was made a life member of this body in 1933. In 1928 he was President of the South African Agricultural Union, on whose executive he served for nine years. He represented Agriculture on the South African Shipping Board and was a member of the Livestock and Meat Industries Control Board.

Notwithstanding his many other activities, Mr. Carless maintained his interest in and enthusiasm for the profession throughout. He was President of the South African Veterinary Medical Association from 1931 to 1936 and was largely responsible for getting the

Veterinary Act No. 16 of 1933, passed by Parliament. In 1939 he was elected Honorary Life President of the South African Veterinary Medical Association, being one of the only two members who have ever been elected to this position.

S. W. J. v. R.

* Announced in our issue of June 2nd.

* * * * *

### The Late Brigadier F. W. Hunt, C.B., C.M.G., C.B.E.

We are indebted to the Editors of *The Journal of the Royal Army Veterinary Corps* for the following account of the distinguished military career of Brigadier Frederick Welsey Hunt, late Army Veterinary Service, whose deeply regretted death has been announced in our columns.

After qualifying at the Royal Veterinary College, London, in 1893, Frederick Welsey Hunt joined the Army Veterinary Department (as the Corps was then known) as a veterinary lieutenant on March 20th, 1895.

In 1896 he was posted to India, where he served on the North-West Frontier and was awarded the Indian General Service Medal with clasp. In 1899 he was transferred to South Africa, where he remained until 1903, during which period he took part in the South African campaign and was awarded the Queen's Medal with five clasps and the King's Medal with two clasps. He was promoted captain in 1902. He returned to England in 1903, where he served until 1908, when he was posted to Somaliland and was later awarded the medal with clasp for that campaign. He was promoted major in 1910.

When the First World War broke out he was serving in England and proceeded to France in August, 1914, to take up the appointment of A.D.V.S. 2nd Cavalry Division, in September of that year. He was awarded the C.M.G. in 1915 and was promoted lieutenant-colonel in the same year.

In February, 1916, he was given an appointment as Deputy Director, granted the temporary rank of colonel in August of that year, and promoted brevet colonel in the New Year's Honours in 1917. As Deputy Director he served first with the Fourth Army during the Battle of the Somme, when it was by far the largest army in France. Subsequently he was posted to the Second Army and later served on the northern lines of communication. During the course of the 1914-18 war he was mentioned three times in despatches, and on June 3rd, 1919, awarded the C.B.E.

He returned to England in 1919, but only for a short spell, since he proceeded to India on May 30th of that year and was posted later to the Mesopotamia Expeditionary Force. He served with that Force from December, 1919, to February, 1922, and was awarded the Iraq Medal with clasp. In December, 1921, he was promoted colonel and was made a Miltary Companion of the Most Honourable Order of the Bath on January 1st, 1923.

On his return once more to England he held the appointment of D.D.V.S., Southern Command, from 1922 to 1925, when he was promoted to Brigadier as Director of Veterinary Services in India, an appointment he held from May, 1925, until he retired in 1928.

"Few officers of the Corps in those days had seen so much active service in various theatres of war as Brigadier Hunt and of his 33 years' total service 20 of them were spent abroad," adds the R.A.V.C. Journal. "Freddie Hunt, as he was affectionately known, was naturally a most able administrator and extremely considerate to all who had the good fortune to serve under his command. Perhaps what endeared him most to those who knew him intimately was his unfailing courtesy in assisting people less gifted than himself in every respect. He was an outstanding clinician and cultivated observation to a degree rarely equalled in equine practice. Nothing pleased him more than to demonstrate painstakingly obscure cases to any junior evincing keenness to learn. He was probably the greatest exponent of field sports that ever graced our Service."

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### The Late Capt. William Shipley, M.R.C.V.S.

Capt. William Shipley, of Southtown, Great Yarmouth, whose death we recorded with much regret in our last issue, was the third generation of his family to practise in Yarmouth. He was educated at Duncan House School and at Felsted College. He qualified at the Royal Veterinary College in 1915 and went straight into the Army, serving with the R.A.V.C., and attaining the rank of Captain.

In his earlier days he was a keen sportsman and at one time was a regular player for the Old Duncanians' Association football and cricket teams and a member of the first committee of the association. He was also a member of Yarmouth Golf Club.

He held the local appointment of Veterinary Inspector under the Ministry of Agriculture, was well known in agricultural circles in the Eastern Counties and an active supporter of the Suffolk Horse Society.

Mr. Shipley, who was 51, leaves a widow, a son and two daughters, to whom deep sympathy is extended in their bereavement.

#### A Personal Tribute

Mr. P. Robert Turner, M.R.C.V.S., of Bury St. Edmunds, writes: "Words can hardly express my grief, and I am sure that of all others who knew him, at the passing of Billy Shipley at such a comparatively young age. I have had many years of association with the Shipley family, firstly, when his illustrious father was at the height of his attainments and Billy, like myself was an aspiring veterinary surgeon. How I remember those times when the would-be stern father made us work when work was to be done, but forgave us—and rather, I think, indulged in—our studentish pranks. Billy and I joined the R.A.V.C. the same day; curiously enough, we met several times in France and Belgium when his Brigade was in proximity to mine, and it was delightful to have his companionship again. Apart from the genial generous attributes of the Shipley family, they were undoubtedly outstanding as veterinary surgeons; their diagnostic and prognostic summing up of cases was sometimes almost uncanny. Their love of country life and nature was inspiring: I would mention gardening, fishing and bowling. How many of us will remember the great times we had playing at "Beechcroft" and elsewhere for the "Shipley" Bowls Tournament Cup, the proceeds of which, typical of the Shipley charitable intuition, go to the Victoria Veterinary Benevolent Fund: may this long continue. Son William aims to be a veterinary surgeon and I am sure, from what I know of him, when he is old enough he will maintain and carry on the good veterinary tradition of the Shipley family."

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### SCOTTISH AGRICULTURAL ADVISORY COUNCIL

Lord Rosebery, Secretary of State for Scotland, has approved the constitution of the new Agricultural Advisory Council which, as intimated in our issue of May 26th amalgamates the present Advisory Council and the Agricultural Improvement Council. The amalgamation of the two bodies was decided on during Mr. Thomas Johnston's tenure of office and its object is to ensure the closest possible co-ordination between the development of general agricultural policy and administration on the one hand and agricultural research on the other.

The function of the new Council will be to advise the Secretary of State and the Department of Agriculture on matters of policy and administration that may be referred to it including such general questions of agricultural development as were previously dealt with by the Agricultural Improvement Council. Questions of a more technical character will be referred to a Technical Committee of the Council.

Sir Patrick Laird, C.B., Secretary of the Department of Agriculture for Scotland, and Sir John H. Milne Home, Commissioner to the Duke of Buccleuch, will continue respectively to act as Chairman and Vice-Chairman of the new Council. Its other members are:—

*Sir George Campbell Bt., of Succoth; Mr. J. B. Douglas, C.B.E., Bastibly, Castle-Douglas; Mr. Joseph F. Duncan, Tillycorthie Farmhouse, Udny Station, Aberdeenshire; Major James Keith, C.B.E., Pitmedden, Udny, Aberdeenshire; *Mr. M. G. M'Diarmid, Mains of Murthly, Aberfeldy; Mr. John Mackie, The Bent, Laurencekirk; *Mr. Ian Menzies, O.B.E., W.S., Broomhills, Liberton, Edinburgh; Sir Joshua Ross-Taylor, Mungoswalls, Duns; Major John Stirling, M.B.E., D.L., Fairburn, Muir of Ord, Ross-shire; Professor Stephen J. Watson, M.Sc., D.Sc., Professor of Agriculture, Edinburgh University; Sir George Wilson, Carbeth Home Farm, Balfron Station, Stirlingshire; Mr. W. J. Wright, The Heugh, North Berwick, East Lothian.

Those marked with an asterisk are new members. The others have been members of either the Advisory Council or the Improvement Council.

Mr. I. C. F. Fryer, O.B.E., Secretary to the Agricultural Research Council will sit as assessor to the Council.

The Council is appointed for a period of three years.

The Technical Committee will include the five members of the Council who were members of the Agricultural Improvement Council, together with directors of research institutes, officers of the agricultural colleges, and Professor T. J. Mackie, O.B.E., representing the Agricultural Research Council. Mr. J. M. Caie, C.B., Department of Agriculture for Scotland, will act as chairman. Members of the Technical Committee will be invited to attend Council meetings as required.

The original Agricultural Advisory Council was set up by Sir Godfrey Collins in 1934.

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### VETERINARY EDUCATIONAL TRUST

#### Wellcome Research Fellowship Awards

The Council of the Veterinary Educational Trust announce the awards of the following Wellcome Research Fellowships:—

A Senior Wellcome Fellowship for Veterinary Research to Mr. Christopher W. Ottaway, F.R.C.V.S.

A Wellcome Fellowship for Veterinary Research to Mr. Herbert Williams Smith, M.R.C.V.S., B.Sc. (Vet. Sc.)

After qualifying in December, 1931, Mr. Ottaway was in veterinary practice for three years. He then entered the Anatomy Department, Royal Veterinary College, as a Demonstrator and is now Senior Assistant in the Department. He has worked at the School of Veterinary Anatomy, Leipzig, and at the Department of Anatomy, Brno University Veterinary School, and has published a number of papers on anatomical problems concerned with domestic animals. His research work under the Fellowship will be conducted at the Zoological Laboratories, University of Cambridge, and will be concerned with an investigation into the mechanics of the limbs of domestic animals and of factors which predispose to lameness and other diseased conditions. In this work he will have the advantage of close association with Professor J. Gray, F.R.S.

Mr. Williams Smith qualified in 1941 and has spent two years in private practice as an assistant. Since 1943 he has been an Assistant Veterinary Investigation Officer at the University College of North Wales, Bangor. He has contributed to the technical Press on the examination of milk samples for mastitis, and on the coagulase test for staphylococci. He has recently completed the examination of over 200 strains of staphylococci of animal origin with particular reference to determining criteria of pathogenicity. His research under the award will be concerned with the epidemiology of staphylococcal infections in animals and will be conducted under Professor G. S. Wilson at The London School of Hygiene and Tropical Medicine.

Both awards will take effect as from October 1st next.

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## ADDRESSES OF DISEASE-INFECTED PREMISES

FOOT-AND-MOUTH DISEASE:

*Surrey*.—Runtley Wood Farm, Sutton Green, Guildford (July 3rd); Sadler's Farm, Woodhill Lane, Send, Woking (July 4th); Papercourt Farm, Tannery Lane, Ripley, Woking (July 5th); Whitehouse Farm, Potters Lane, Send, Woking (July 6th); The Boxes, Ladygrove Farm, Sutton Park, Sutton Green, Guildford; Fullers Farm, East Clandon, Guildford (July 8th).

SWINE FEVER:

*Cumberland*.—Banksfoot, Low Row, Carlisle (July 4th); Lyne Foot, Westlinton, Carlisle (July 7th); Howard House, Great Corby, Carlisle (July 9th).

*Derbyshire*.—Meadow Lane, Alfreton (July 7th).

*Glos*.—Ashwell Cottage, Saintsbridge (July 7th).

*Hunts*.—Taylor's Farm, Great Gravely (July 7th).

*Kent*.—Allington, Tonbridge Road, Wateringbury, Maidstone; Bitchet Wood Farm, Seal, Sevenoaks (July 4th); Brook Farm, Powerscroft Road, Foots Cray, Sidcup (July 7th).

*Lanarks*.—Craigendmuir, Stepps, Glasgow (July 4th).

*Somerset*.—Mark's Barn Farm, Meriott (July 3rd).

*Surrey*.—Broadwells Farm, Wrecclesham, Farnham; Crown Farm, Englefield Green, Egham (July 9th).

*Warwicks*.—Longmead, Red Lane, Stoneleigh, Coventry (July 7th); Charity Fields, Bedworth, Nuneaton (July 9th).

*Wilts*.—Whaddon Farm, Hilperton, Trowbridge (July 4th).

*Yorks*.—176, Fartown, Pudsey, Leeds (July 3rd); Swallow Hall Farm, Crockley Hall, York; Church Farm, Barlby, Selby; High Street, Lingdale, Saltburn (July 6th).

SHEEP SCAB:

*Salop*.—Glanrafon Farm, Maengwynedd, Llanrhaiadr, Y.M., Oswestry (July 2nd).

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## TOWARDS A HEALTHY DAIRY HERD

In the course of his address at the recently held annual meeting of the Milk Marketing Board, Sir Thomas Baxter (Chairman) said:—

"Improved feeding and breeding will not alone solve our production problems unless the health of our herds is improved by the eradication of disease. It is not the financial side that we need to stress most: rather is it the nation's health that matters and everything, therefore, within the power of our producers should be done to breed and maintain healthy herds. That is a responsibility that rests on others as well as the farmers, although we cannot escape from our own responsibility here. But it is not easy to ensure good, healthy cows unless there is an abundance of good water and sanitary buildings in which to house the cattle during many months of the year.

"There is need, too, of a much larger and better equipped veterinary service to look after the health of our cows and other farm animals. We need just as systematic and satisfactory a national health service as is provided for human beings. We shall not get to a really healthy national herd unless cows suffering from disease are compulsorily slaughtered and not sent into the market and passed on to others. That is a ruthless policy, but as soon as conditions are right for such strong action and a scheme of fair compensation is available, it should be put into operation.

"I hope, too, we shall soon see a determined attempt made to secure disease-free herds by a 'closed' system in which only healthy animals are kept, gradually extending over a wider range until in a period of years this country will be able to claim to have an entirely healthy dairy herd. It is a policy which may take many years, but surely the time is ripe for a determined effort to be made under Government authority."

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## H.M. STATIONERY OFFICE PUBLICATIONS

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The Poultry Association of Great Britain has asked the Ministry of Agriculture to discontinue reference to the poultry industry as a "subsidiary branch of agriculture"; particularly, in view of the policy now adopted by the Government, which provides for an expansion in the industry and the change of policy whereunder the emphasis is now on livestock production rather than cereals.

# CORRESPONDENCE

*The views expressed in letters addressed to the Editor represent the personal views of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.*

Letters to the Editor should reach the Office not later than by the first post on Monday morning for insertion in following Saturday's issue.

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## FRACTURES OF THE PASTERN BONES

Sir,—In a recent issue of *The Veterinary Record* two cases were reported as being unusual. One was a case of split pastern in the horse.

On this subject the following was written in 1907:—

"Such fractures may be simple rents, or fissures, disposed transversely or longitudinally, or the bone may be broken into many pieces, and the fracture be even compound. They are commonly met with in racehorses, as a result of turning suddenly, slipping or taking a false step, and in steeplechasers when jumping. But fracture of the pastern bone may occur without any special apparent cause, quite independently of any strenuous exertion or accident, and even comminuted fractures have been known to occur during the performance of ordinary and gentle work on the level. Such fractures as occur without any special cause being apparent are sometimes termed spontaneous fractures."

"Cases of simple split pastern confined to the os suffraginis usually do well, and complete recovery is common. At first a dry bandage should be appplied, and over this a plaster bandage, when the animal should be placed in slings. No attempt should be made to remove the bandage for from six to seven weeks, the animal remaining in slings."—(SHARE JONES, *The Surgical Anatomy of the Horse*—Part 2. 69-70).

Equine practice is regaining rapidly its former important position in veterinary work when those engaged in this branch had no superiors in any other country. The certificate of a "British Vet." was accepted without hesitation in any country abroad, and at home few transactions of any consequence were conducted without a veterinary examination and certificate of soundness. This certificate as is well known, was and is granted on an examination often conducted in public—an examination that implied a thorough knowledge of the subject. It was the thoroughness and efficiency of the equine practitioner of 50 years ago that invested the verb "to vet" with the respectable meaning it enjoys to-day.

To me it appears that in equine practice the application of veterinary science attained its highest degree of efficiency, and next to this one would be inclined to place small-animal practice. The practice of the science in the case of the ox, the sheep and the pig, as compared with the horse and small animals, is too often restricted, for a reason that is quite obvious.

Yours faithfully,

Pentrebychan Hall, Wrexham. JOHN SHARE JONES.
*June 22nd*, 1945.

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## ECHINOCOCCOSIS

Sir,—The enclosed photograph is one of the liver of a six-year-old cow slaughtered some years ago at the local abattoir.

The liver is extensively affected with echinococcus cysts and weighed, after the animal had been bled, 166 lb. I saw the specimen myself and my assistant at that time I believe, Mr. J. D. Coutts, M.R.C.V.S., D.V.S.M., photographed it; and from the original photo-

graph, in my possession, the present one (reduced two-thirds) has been made by our technician, Mr. J. C. Rennie.

Yours faithfully,

D. C. Matheson.

Department of Pathology and Bacteriology,
Royal (Dick) Veterinary College,
Edinburgh, 9.
*June 6th*, 1945.

Echinococcus cysts in the liver of a six-year-old cow. Weight of liver after the animal had been bled, 166 lb.

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## THE USE OF BARIUM CHLORIDE INTRAVENOUSLY

Sir,—Mr. Steele-Bodger in "Some topical comments" (*The Veterinary Record*, June 30th, 1945) has given his support to the use of barium chloride intravenously (method of Amadon).

This method as stated in my article of June 2nd, 1945, is by the use of the drug *in controlled doses.*

A 40 grain dose is not a controlled dose. In my view this is probably one of the reasons why the use of the drug has fallen into the past.

The maximum dose of 7½ grains in the horse may be repeated, but it should not be exceeded. Auscultation should always be practised simultaneously.

Yours faithfully,

Little Orchard, Lindsay Auchterlonie.
Whatton-in-the-Vale, Nr. Nottingham.
*July 1st*, 1945.

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## VETERINARY EDUCATION: THE ONE-PORTAL SYSTEM

Sir,—Dr. Wooldridge is well aware that the term "uni-portal" as applied to any profession has one, and only one, interpretation, *i.e.*, one examining board whose final examination qualifies for admission to the profession. He is, further, well aware that the essence of this system cannot be maintained if there are created at least four other separate and independent examining bodies whose examinations shall admit to the Veterinary Register in accordance with the recommendations of the Loveday Report.

Of one other thing he is equally well aware, and that is that the overwhelming majority of the profession is solidly opposed to the addition of any other examining boards to the sole one at present in existence, which admits to the Veterinary Register, and is under the full control of the R.C.V.S. and that body alone.

Dr. Wooldridge's opinion is that in order to get a link with the universities it will be to our advantage to purchase this, at the price insisted on by these powerful bodies, of scrapping and destroying our present one-portal system. He thus finds himself in a dilemma: how can he get the profession to abandon the present system while it shows so clearly it has no intention of so doing? Answer: he will tell them first that the one-portal system is maintained and, if they will not swallow that, he will then proceed to assure them that if this is not so, at least the essence of the system is maintained, which latter inaccurate statement is to be found in the report itself! To ask a familiar question, recently brought into prominence by the Prime Minister, one is entitled to say of Dr. Wooldridge and his colleagues on the Loveday Committee: "What sort of people do they think we are"?

Yours faithfully,

23, Queen's Gate Gardens, Thomas Lishman.
London, S.W.7.
*July 2nd*, 1945.

Sir,—That Dr. W. R. Wooldridge had long been perfectly familiar with the ordinary meaning of the words "one portal" and "uni-portal" was believed to be clear from the language used in Chapter VI of the First Report of the Departmental Committee on Veterinary Education, published in 1938 (of which he was then also a member).

That chapter headed "*Note on the 'One-portal' System*" contains the following statements:—

"*Most of the evidence that we have received from members of the veterinary profession has favoured retention of the present system of licensing, by which membership of the R.C.V.S. gained by passing its examinations alone gives a qualification to practise as a veterinary surgeon.*

"*We feel strongly that some alteration in the present system is desirable. There should be some broadening both in the outlook of the governing body of the profession and in its educational system, and to this end the universities should participate to a greater extent in veterinary education. We are not of the opinion, however, that a multi-portal system of entry into the profession will be to its advantage. . . .*"

If the words "*one portal*" and "*uni-portal*" are now to be strained in their meaning to embrace all that Dr. Wooldridge has ascribed to them in his letter in your issue of June 30th, will he be good enough to enlighten us further as to precisely what residual meaning he would wish to convey to us by the word "*multi-portal*," as used by him and his colleagues in the First Report? And again, will he tell us whether or not the system of entry into the medical profession is a "multi-portal" one according to the sense which he gives to this word?

It will certainly help us, so that we do not misunderstand him in the present controversy, if he will tell us what the words "*one portal*" and "multi-portal" mean to him now. It will be readily conceded to him, however, if he wishes it, that words that have originated in this way, to give a pictorial impression of a process or system, may convey different meanings to different people.

What, therefore, is far more important than any meaning he gives to these words is that he should tell us quite plainly how he stands at present towards "*the retention of the present system of licensing, by which membership of the R.C.V.S. gained by passing its examinations alone gives a qualification to practise as a veterinary surgeon.*"

That was what most of us had thought to be the one-portal system of entry into our profession, and the words used in the First Report had given us to understand that, in 1938, the Committee of which Dr. Wooldridge was a member was in favour of the retention of this system.

That may not matter very much, however, at this moment. What matters—and matters to many of us urgently—is to know from him precisely whether "*the present system of licensing*," as described in the words of the First Report, is one that, in his view, ought henceforth to be retained or, for a consideration, abandoned? In his reply to this plain question, quite obviously, he need not trouble to expatiate on the allurements of that consideration, should he declare himself openly in favour of abandonment.

Yours faithfully,

University of London Club, J. T. Edwards.
21, Gower Street, W.C.1.
*July 1st*, 1945.

Sir,—The result of the recent election shows conclusively that the majority of the profession is in favour of the continuance of the present "uni-portal" system of veterinary education. This view is further enhanced by the fact that a "uni-portal" candidate topped the poll.

That Dr. Wooldridge finds encouragement in the fact that 36 per cent. of the profession was sufficiently misguided as to be prepared to throw away the substance for the shadow is scarcely a matter in which to take pride.

His anxiety for the future appears to have blinded him to the fact that those of us in favour of the "uni-portal" system have the future of the profession equally at heart, although we may be somewhat less vociferous in our protestations than is he.

Yours faithfully,

1, Broomhill Terrace, F. J. Kinghorn.
Partick, Glasgow.
*July 2nd*, 1945.

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## R.C.V.S. COUNCIL ELECTION

Sir,—It will be seen from the report of the special meeting of Council, R.C.V.S., held at York on July 18th, 1944, published in the Supplement to *The Veterinary Record* dated September 23rd, 1944, that *before* Mr. Steele-Bodger spoke, I "suggested they should go through the Report paragraph by paragraph, and so get a clear understanding at the start of what *they* meant by the one-portal system." It is surely obvious that by "*they*" I was referring to my colleagues on this Council. Mr. Steele-Bodger raised the same question immediately afterwards, and I considered then, and do now, that he wanted the Council of the R.C.V.S. to define it—certainly *not* the Loveday Committee.

Yours faithfully,

"Rothiemurchus." J. F. D. Tutt.
St. Cross, Winchester.
*July 8th*, 1945.